

- Evolution and Equilibrium.
- Form and Function.

Below is a brief summary of biology topics to help teachers develop this understanding. Making connections and comparisons across the scientific disciplines will help students see these concepts in the larger context of science beyond chemistry.

General ideas for weaving unifying concepts throughout the curriculum:

- Review a unit by having students work in groups to produce concept map on how the topics in the unit connect to the unifying concepts
- Post the unify concepts on posters throughout the classroom and add topics to the posters during the year. Use these posters to review the biology content at the end of the year.

Unifying Concepts	Biology topics which demonstrate these concepts
Systems, Order and Organization	<ul style="list-style-type: none"> • Emphasize that systems have order and organization and involve parts that interact and influence each other. As you progress through the curriculum, you can connect this theme to many topics such the flow of matter and energy through organisms as well as throughout the ecosystem. • Help students see that systems, order and organization are found in everything from cells to the biosphere. • Have students work in groups to develop feedback and equilibrium diagrams for enzymatic reactions, for hormone behavior, and for the process of natural selection.
Evidence, Models, and Explanation	<ul style="list-style-type: none"> • When students write conclusions to their lab reports, help them practice supporting their conclusions with evidence from the data. • As students study the history of the discovery of the structure of the DNA molecule, have them diagram the relationship between the evidence and each proposed structure. • Have students read summaries of scientific discoveries and make lists of the evidence that supports the conclusions of the scientists. • Have students build models of cells, or organ systems. • Have students build a model of an imaginary organism that must be able to function in a particular way.